

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 11, line 19 as follows:

A preferred embodiment of the present invention is now explained. Referring to Fig. 1, a preferred embodiment of the demodulator of the present invention includes a quadrature detecting unit 1, a quadrature controller 6, and an automatic amplitude controller (AGC) 2 in this order of signal flow, and further a feed back circuitry comprising an error detection unit 3, an amplitude error detection unit 4 and quadrature error detection unit 5. The quadrature detecting unit 1 is fed as an input signal with an intermediate frequency (IF IN) signal for quadrature-detecting the input signal to output an in-phase component I_{ch1} and a quadrature component Q_{ch1} . The quadrature controller 6 is fed with an in-phase component and a quadrature component output from the quadrature detecting unit 1 to correct the quadrature error based on quadrature error signal Q_d . The automatic gain controller AGC 2 is fed with the in-phase and quadrature components I_{ch2} , Q_{ch2} output from the quadrature controller 6 to output signals, which are corrected for respective amplitude errors by in-phase and quadrature components A_i , A_q of the amplitude error, as in phase and quadrature components I_{ch3} , Q_{ch3} of the demodulated signal. The error detection unit 3 is fed with the in-phase and quadrature components I_{ch2} , Q_{ch3} of the demodulated signal output from the automatic gain controller 2, and detects and outputs an in-phase component and a polarity signal E_i , D_i of the error signal and a quadrature component and a polarity signal E_q , D_q of the error signal. The ~~amplitude quadrature~~ error detection unit 4 outputs an in-phase component and a quadrature component A_i , A_q of the amplitude error to the automatic gain controller 2 based on a polarity signal D_i of the in-phase component I_{ch3} of the demodulated signal and the in-phase component E_i of the error signal, and on a polarity signal D_q of the quadrature component Q_{ch3} of the demodulated signal and the quadrature component E_q of the error signal, D_i , D_q , E_i and E_q being output by the error detection unit 3. The quadrature error detection unit 5 generates a quadrature error

signal Q_d based on an in-phase component E_i and a polarity signal D_i of the error signal and a quadrature component E_q and polarity signal D_q of the error signal, E_i , D_i , E_q and D_q being output from the error detection unit 3, and outputs the quadrature error signal Q_d to the quadrature controller 6. The quadrature error between phases of the in-phase component I_{ch} and the quadrature component Q_{ch} generated at the time of modulation is corrected by the quadrature controller 6.